REMARKS

According to the present office action, claims 1-13, 16-20, and 22-27 are pending in the application. These same claims stand variously rejected under the doctrine of double patenting and under 35 U.S.C. § 103(a).

At the outset, the Applicant thanks the Examiner for conducting the telephonic interview on March 2, 2007. Also, just as a matter of bookkeeping and to avoid confusion to any subsequent readers of the prosecution history, the Applicant would like to make a point regarding the usage of quotes (" "). For example, on page 6 of the Office Action, first full paragraph, the Examiner states:

> Applicant argues (3), "the recited API is configured to (1) perform registering applications loaded in a computer system,... (2) enable an agent to collect, store, and package information about state dependencies among applications, ..."

(emphasis added on the opening and closing quote). The Applicant has made no such statement – no such ***verbatim*** statement. The Applicant can appreciate that the Examiner is ***restating*** (sometimes word-for-word) what the Applicant is arguing, but please compare what the Applicant actually said on p. 7 of the Remarks:

> Independent claims 16 and 22 recite similar subject matter: "said API enables an agent to collect, store and package....

This is what was actually said. The Applicant apologies up front for being pedantic about such an (otherwise trivial) issue, but it may confuse readers of the prosecution history as to what the Applicant has said on record – the Applicant understands that quotes (" ") are used to indicate what the Applicant has actually said, whether in the Remarks or during a telephonic interview.

Telephonic Interview, March 2, 2007

The Undersigned conducted a telephonic interview with the Examiner, on March 2, 2007. During this interview the double patenting rejection and the 103(a) obviousness rejection were discussed. The Examiner helpfully explained subject matter of the Office Action. The Applicant herein considers the Examiner's comments in explaining why the claims should be allowed – specific reference to such comments are made below.

Double Patenting Rejection

Claims 1-13, 16-20, and 22-27 have been rejected under the judicially created doctrine of obviousness-type double patenting. Applicant addresses each of the patents used in the rejection in the order they appear in the Office Action.

Regarding claims 1-39 of U.S. Patent No. 5,946,698 (Lomet '698), without characterizing these claims, but merely stating what they recite, Applicant notes that claims 1-39 are directed to a different subject matter then the presently recited claims. For example, claim 1 of Lomet '698 is directed to "defining an application object…" and "automatically flushing the object….", whereas the presently pending claims recite "registering applications…," "storing … at least one application's state dependency information…," and "communicating said … information." Not only are these claims not identical – as admitted by the examiner in the office action, p. 10 – they are not even similar. Claim 1 of Lomet '698 recites a different subject matter having to do with "automatic[] flushing … to non-volatile memory" (claim 1, Lomet '698), whereas claim 1, for example, recites handling dependency information. The notion that these two sets of claims share the general aspect of a "backup service operation" (Office Action, p. 10) is simply too broad a rejection given the vast difference between these two claim sets. The Applicant respectfully asks that the Examiner reconsider how different these claims are, or provide more specific basis for the rejection.

The Examiner also has added U.S Patent No. 5,920,873 (Van Huben et al.) as allegedly disclosing APIs and U.S. Patent No. 5,938,775 (Daminin et al.) as allegedly disclosing the concept of handling dependency among applications. Applicant notes that Van Huben discloses, at col. 114, l.5 – col. 115, l. 17, "an API which permits … to write a dependency check"; Daminin, moreover, discloses in the Abstract "[t]ransitive dependency tracking of messages and process states … to record the highest-index state interval of each process upon which a local process depends."

Applicant also notes that these passages were discussed during the telephonic interview, and the Applicant respectfully submits that the addition of Van Huben et al. and Daminin et al. to Lomet fails for at least three reasons: First, Lomet '698 recites a different subject matter from the presently pending claims, and thus is not a proper basis for a double patenting rejection, as is explained above.

Second, even if Lomet '698 could be somehow stretched to encompass the presently pending claims (which it clearly cannot), the addition of Van Huben et al. and Daminin et al. is improper since the API disclosed in Van Huben is directed to writing dependency checks and not to "communication[] of application's state dependency information among applications, a common software agent, a storage component utilized by said agent and a backup service" (claim 1). In short, as the Applicant noted before, these are different kinds of APIs. Moreover, even if they were not different, Van Huben et al. could not be combined with Daminin et al., since the latter reference discloses the concept of transitive dependency tracking of messages and process states, not "communication[] of application's state dependency information among applications…." These are different concepts.

Now, in the latest response, Office Action, p.5, the Examiner gives an explanation of what an API is, and that the cited arts (Lomet '698, Van Huben et al., and Daminin et al.) need APIs to function. But, that's not the issue. The issue is what kind of API is recited. In claim 1 it is one "for communications of application's state dependency information among applications, a common software agent, a storage component utilized by said agent and a backup service." Moreover, during the telephonic interview, the Examiner noted that these four components would be needed in any system and that they would interact with an API. But, again, the claims are not merely reciting an API and nothing more, rather they are severely limiting its scope via the additional limitations. Please see claim 1, above.

Third, there's no motivation to combine these three references (even if they did disclose all the elements, which, per the two reasons above, they don't). During the interview, the Examiner pointed out that an API or some similar mechanism would have to be used to handle dependency information in the combination of Lomet '698, Van Huben et al., and Daminin et al. However, the Applicant points out that the API of claim 1 is a certain kind of API (not just any API) that communicates *application* state dependency information *among applications, a common software agent, a storage component utilized by said agent and a backup service*. There is no such motivation in three references to combine them. Merely saying they share the general notion of dependency information in the cited art is not specific enough for the rejection.

Next, claims 1-13, 16-20, and 22-27 were rejected under obviousness-type double patenting as being unpatentable over claims 1-59 of U.S. 5,870,763 (Lomet '763). For

example, claim 1 of Lomet '763 is directed to "defining an application object…," "executing the application to change the address space…," "tracking … any flush order dependencies…," etc. However, in contrast to these claims, the presently pending recited subject matter is directed to "registering applications … with an … API for communication of application's state dependency information… among …" (claim 1). Tracking flush order is something wholly different from what is recited in claim 1, for example. Furthermore, the Applicant notes that similar reasoning, to that of stated above, renders the Van Huben et al. and Daminin et al. references moot herein and below.

Next, claims 1-13, 16-20, and 22-27 were rejected under obviousness-type double patenting as being unpatentable over claims 1-46 of U.S. 6,067,550 (Lomet '550). For example, claim 1 of Lomet '550 is directed to "executing the application object…," "logging, as a logical write operation, a reference…," "establishing a flush order dependency between the application object and the data object…," etc. Again, the Applicant notes that establishing a flush order (a trivial thing to do) is different from, for example, what's recited in claim 1 – please see above.

Lastly, claims 1, 16, and 22 were rejected under obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. 6,151,607 (Lomet '607). For example, claim 1 of Lomet '607 is directed to a data object stored in the main memory, a cache manager, where the cache manager is configured to detect any cycle dependency between the data object and the application object for simultaneous flushing. Again, the Applicant refers the Examiner to claim 1, for example, that recites "registering applications … with an … API for communication of application's state dependency information… among …" (claim 1). This step is simply not apparent here. The mere fact that this claim, or any of the other claims in this '607 Lomet patent (or any of the other Lomet patents discussed above) mention the notion of "dependency information" is not enough for a double patenting rejection.

Rejection Under 35 U.S.C. § 103(a)

In the most recent Office Action, the Applicant submitted that (1) the API of claim 1 is something wholly distinct from what is disclosed in the cited art, and (2) in the alternative, there is no motivation to combine (a) Lomet '763 with (b) the Van Huben et al. "API which permits … to write a dependency check" and (c) with the Daminin et al. disclosure of "[t]ransitive dependency tracking of messages and process states … to record the hightest-index state intervfal of each rocess upon which a local process depends."

The Applicants would like to respond to the Examiner's Office Action remarks and remarks made during the telephonic interview. The Examiner pointed out in both the Office Action and the interview that APIs are a set of routines used by an application program and that such APIs would help the implementation (Office Action, p. 3, and March 2, 2007 interview; pp. 7-8). The Applicant appreciates this point.

However, let's examine the language of claim 1:

> A method for utilizing applications' state dependency information to efficiently perform a backup service operation in a computer system, comprising the acts of:
>
> *registering applications* loaded in said computer system with an application dependency application programming interface (API) *for communications of application's state dependency information among applications, a common software agent, a storage component utilized by said agent and a backup service*;
>
> storing in said storage component at least one application's state dependency information; and
>
> communicating said at least one application's state dependency information from said storage component to said backup service.

In the Office Action, the Examiner states that "registering [of] applications [is disclosed in] (e.g. col. 6, ll. 3-26)." However, this passage merely discloses the assigning of state IDs to applications to identify their place in the execution sequence. Please compare this to what's recited in claim 1: "*registering applications* loaded in said computer system *with an* application dependency application programming interface (*API*) *for communications of application's state dependency information among applications, a common software agent, a storage component utilized by said agent and a backup service*" (emphasis added). Applications are registered with an API for communicating state dependency information among the aforementioned components.

Thus, this is not just any type of API, but an API with the recited functions above. Without reading limitation from the written description into the claims, the Applicant points the Examiner to attributes that have been attributed to this API on p. 13 (at least first full paragraph). Secondly, as the Undersigned pointed out during the telephonic interview, the motivation to combine must be in the references and it must be specific. Relying on a broad disclosure of manipulation of dependency information is not enough.

Lastly, the Applicant notes that similar reasoning to that stated above applies to the other independent claims and any claims depending therefrom. Therefore, Applicant respectfully submits that pending claims 1-13, 16-20, and 22-27 define over the cited art.

If these remarks are not persuasive to the Examiner, Applicant respectfully requests the Examiner contact the undersigned at 206-903-2461.

Best Regards,

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